

LCIL Friday Lecture: *'Climate change and the law of the sea: A test for international law'*

Nilufer Oral

Director

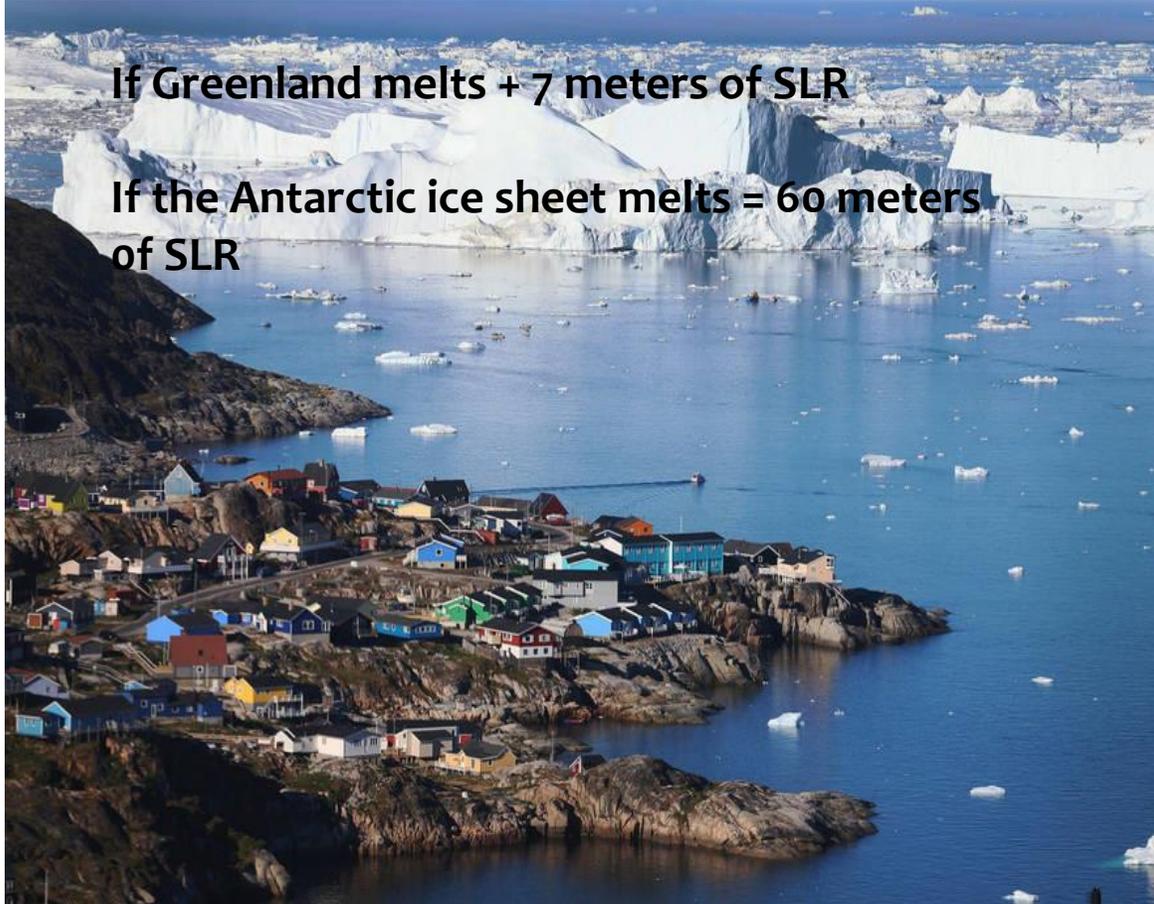
Centre for International Law-National University of Singapore

19 February 2021

Outline

- 1. Scientific context**
- 2. UNCLOS and UNFCCC regimes**
- 3. Comments and conclusions**

Sea Level Rise

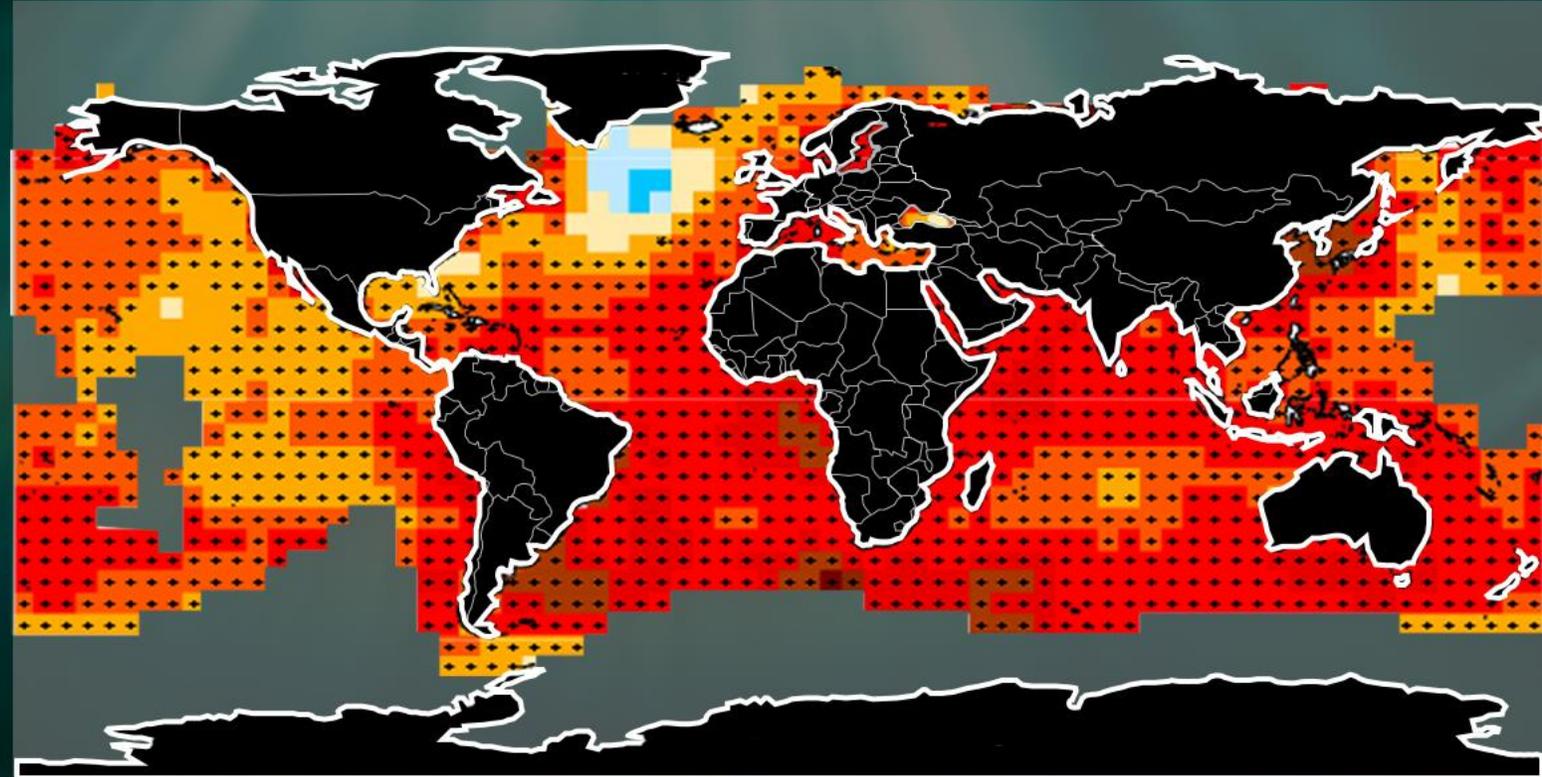


Ocean warming at Historic Levels

- Ocean has absorbed more than 90% of excess heat
- Ocean is largest sink for CO₂
- The ocean is warmer today than at any time since record-keeping began in **1880**.
- The greatest ocean warming overall is occurring in the Southern Hemisphere and is contributing to the subsurface melting of Antarctic ice shelves (IUCN)

OCEANS HEATING UP

Change in Sea Surface Temperature (°F) Since 1901:



Data through 2014. Gray indicates insufficient data

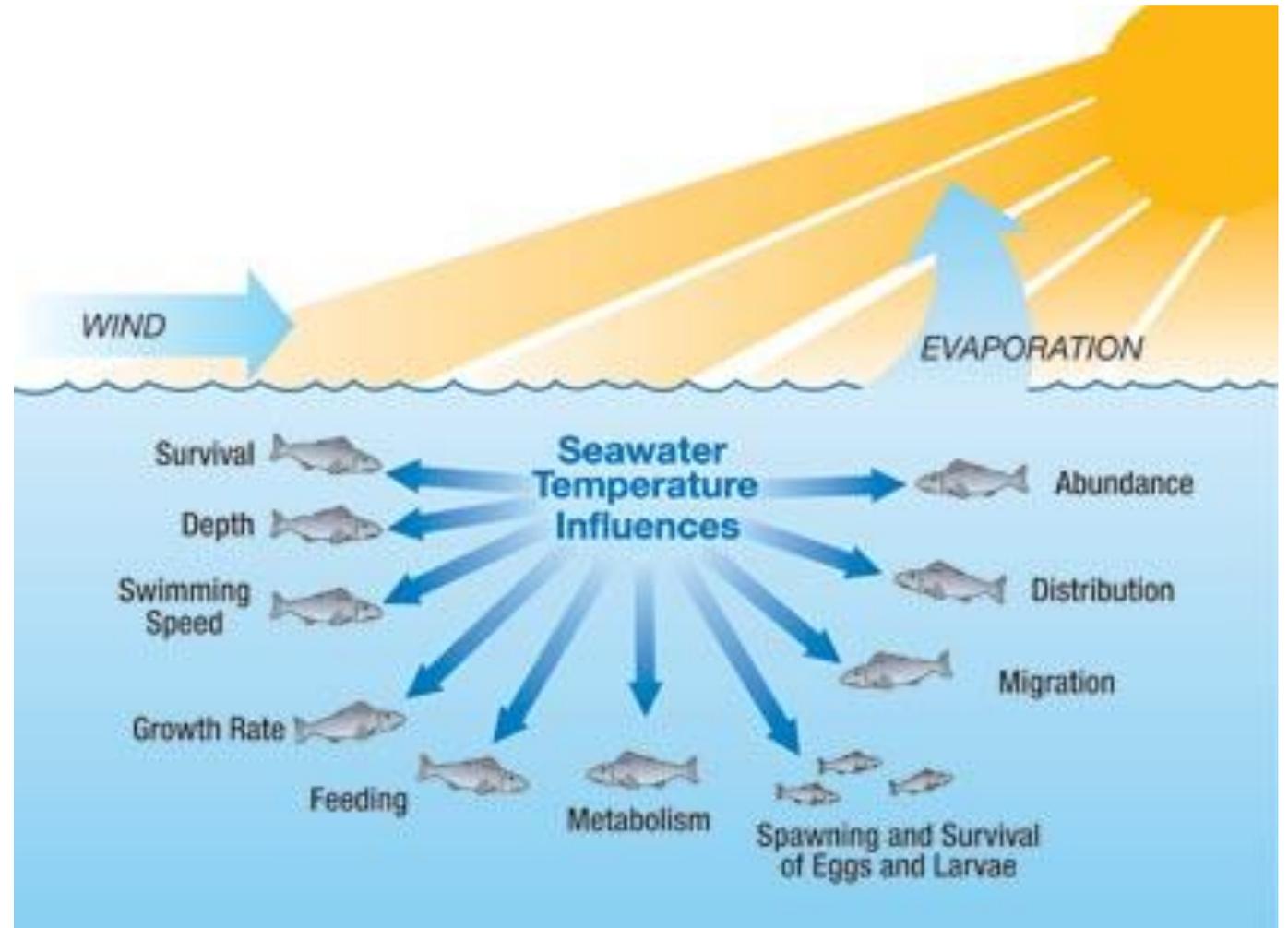
"+" Indicates statistically significant trend

Source: IPCC, NOAA: Merged Land-Ocean Surface Temp Analysis

“Coral on the Great Barrier Reef was 'cooked' during 2016 marine heatwave, study finds” (NATURE, 2018)
'They didn't die of starvation ... They cooked'



Ocean warming impacts on fisheries



Fisheries and climate change

Steve Simpson, a marine ecologist at the University of Exeter:

“I’m optimistic that we can have sustainable and productive fisheries, but they’re not going to be the fish we used to catch,”... “It’s a changing of the guard.”

❖ **“In England, sardines have replaced herring, cold water-loving cod and haddock are heading north, and bottom-dwelling sole risk being “pushed off a cliff” as suitably cool water temperatures drift away from the continental shelf. ”**



“Mackerel wars”

The Observer

How climate change spells disaster for UK fish industry

Grimsby was home to Britain's biggest fleet - now it relies on processing fish from Iceland. But if the EU imposes quotas on mackerel the impact on the Humberside town would be devastating



National Geographic :

“For tens of millions of years, Earth’s oceans have maintained a relatively stable acidity level. It's within this steady environment that the rich and varied web of life in today's seas has arisen and flourished. But research shows that this ancient balance is being undone by a recent and rapid drop in surface pH that could have devastating global consequences...”

“Over the past 300 million years, ocean pH has been slightly basic, averaging about 8.2. Today, it is around 8.1, a drop of 0.1 pH units, representing a 25-percent increase in acidity over the past two centuries.”

Coral Reefs

- If high CO₂ emissions continue, changes in carbonate chemistry and warming of the tropical ocean may hamper or prevent coral reef growth within decades.
- Tropical coral reefs represent a very small fraction of the earth's surface but provide habitat to **25% of** all marine species.
- Reefs generate billions of dollars in tourism, as well as food for people in 100 countries.
- Healthy reefs also provide protection for coastal communities from storms, serving as barriers that diminish the power of waves and storm surges.



Ocean Acidification



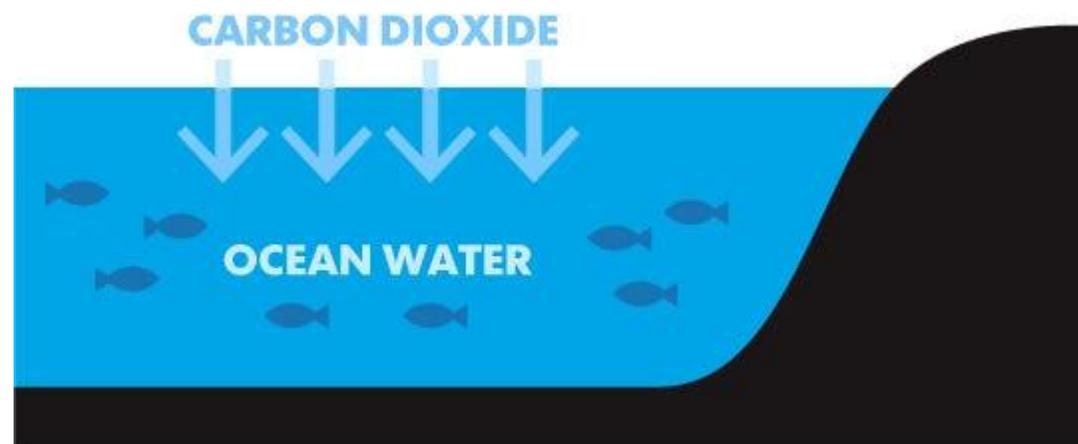
Deoxygenation

Decrease in oxygen means loss of habitats

Paradox: warmer waters also increase animals' metabolic rates, forcing them to use more oxygen to breathe and this adds to deoxygenation of the oceans

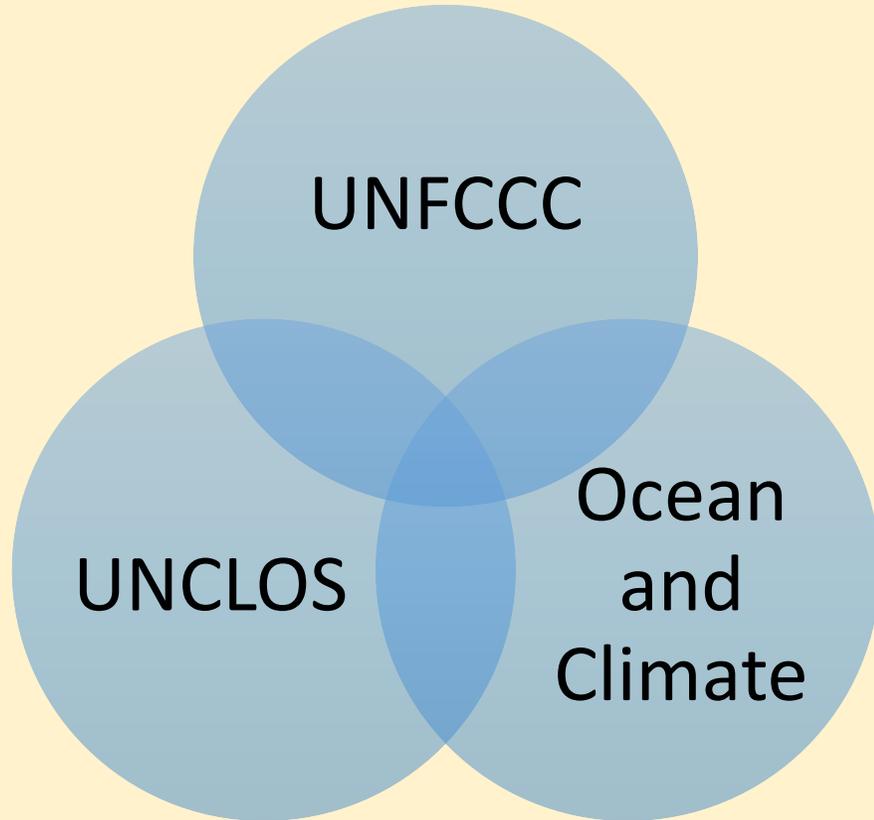
Predicted climate and oxygen conditions will create a poleward migration as equatorward waters become too low in oxygen to support their energy needs

Pole-ward waters will have reduced oxygen levels



Climate Change and the Ocean

**Can international
law respond to
the challenges?**

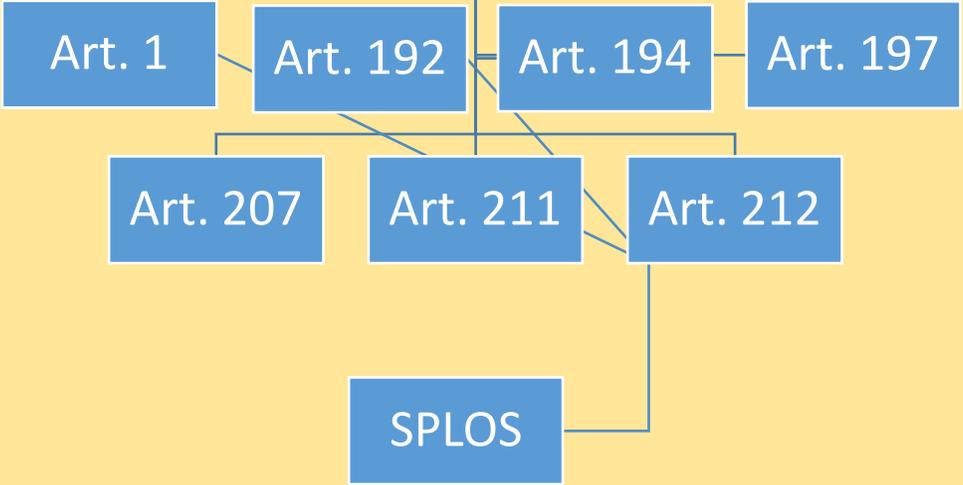


UNFCCC

UNCLOS

Ocean
and
Climate

UNCLOS
Part XII



- **1982 UNCLOS**
- **Article 192** “States have the obligation to protect and preserve the marine environment.”

Obligations under 1982 UNCLOS

Article 194 Measures to prevent, reduce and control pollution of the marine environment

States shall take:

- (1) all measures consistent with this Convention that are necessary to prevent, reduce and control pollution of the marine environment from any source,
- (3) measures taken shall deal with all sources of pollution of the marine environment.
- (5) measures taken shall include those necessary to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life.

1982 UNCLOS

- Does CO₂ constitute “pollution” under UNCLOS?

Article 1(1)(4) defines pollution as “the introduction by man, directly or indirectly, of substances or energy into the marine environment, which results or is likely to *result in such deleterious effects* as harm to living resources and marine life, hazards to human health, ...

1982 UNCLOS

Article 197: Cooperation on a global or regional basis

- States **shall cooperate** on a global basis or regional basis -directly or through competent international organizations- **in formulating and elaborating international rules, standards and recommended practices and procedures** for the **protection and preservation** of the marine environment..
- ITLOS “*the duty to co-operate is a fundamental principle in the prevention of pollution of the marine environment under Part XII of the Convention and general international law.*”
- Inter-regime cooperation?

1982 UNCLOS

- **Other relevant provisions:**

- 1. Article 207: Pollution from land-based sources**

- *Obligation to adopt laws at the national level AND*
- *States, acting especially through competent international organizations or diplomatic conference, shall endeavour to establish global and regional rules, standards and recommended practices and procedures to prevent, reduce and control pollution of the marine environment from land-based sources....*

- 2. Article 212: Pollution from or through the atmosphere**

- *Obligation to adopt laws at the national law AND*
- *States, acting especially through competent international organizations or diplomatic conference, shall endeavour to establish global and regional rules, standards and recommended practices and procedures to prevent, reduce and control such pollution.*

1982 UNCLOS

- No decision making procedure for implementation (e.g COP)
- State Parties of the Law of the Sea (SPLOS)
- No subsidiary bodies

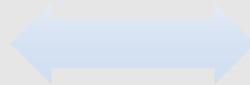


United Nations
Climate Change

1992
UNFCCC

KYOTO +
Doha

Paris
Agreement



COP
SBSTA
SBI

UNFCCC

Art. 2 Objective

Art. 4
sinks/reservoirs

Paris
Agreement

Art. 2
Temperature

Art. 5
Sinks/reservoirs

Art. 4
NDC

MCA
SBSTA
SBI

UNFCCC: Article 2 Objective

The ultimate objective of the Convention and any related legal instruments:

The stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.

Such a level should be achieved within a **time-frame sufficient to allow ecosystems to adapt naturally to climate change**, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.

Paris Agreement: Article 2 aims to:

Hold the increase in the global average temperature **to well below 2°C** above pre-industrial levels and **pursue efforts to limit the temperature increase to 1.5°C** above pre-industrial levels

1. **What is the benchmark for the ocean that can guide State actions—constitute the basis for States to take the “necessary measures”.**

According to the IUCN

- “To avoid significant harm, atmospheric concentrations of CO₂ must be reduced to **320-350 ppm** range of CO₂ in the atmosphere.”
- “The current emissions targets need significant tightening if they are to tackle the issue of ocean acidification and ocean warming.
- Limiting the global average temperature increase to well below 2°C, rather than a lower level, will significantly harm the ocean life...

UNFCCC Article 4 (d)

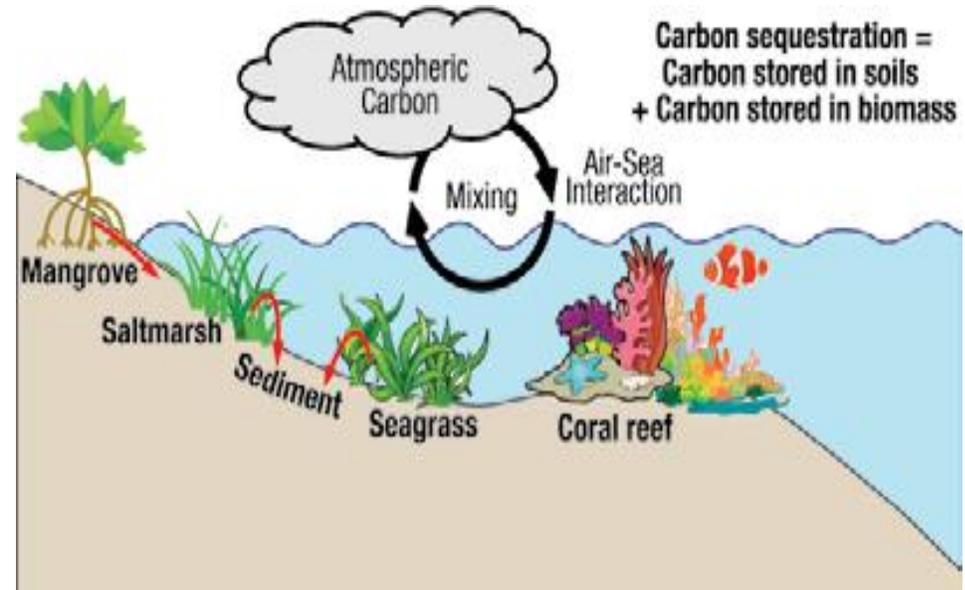
- establishes an obligation for all (CBDR)... to:
- “Promote sustainable management, and promote and cooperate in the **conservation and enhancement, as appropriate, of sinks and reservoirs** of all greenhouse gases not controlled by the Montreal Protocol, including biomass, forests and **oceans** as well as other terrestrial, **coastal and marine ecosystems;**”

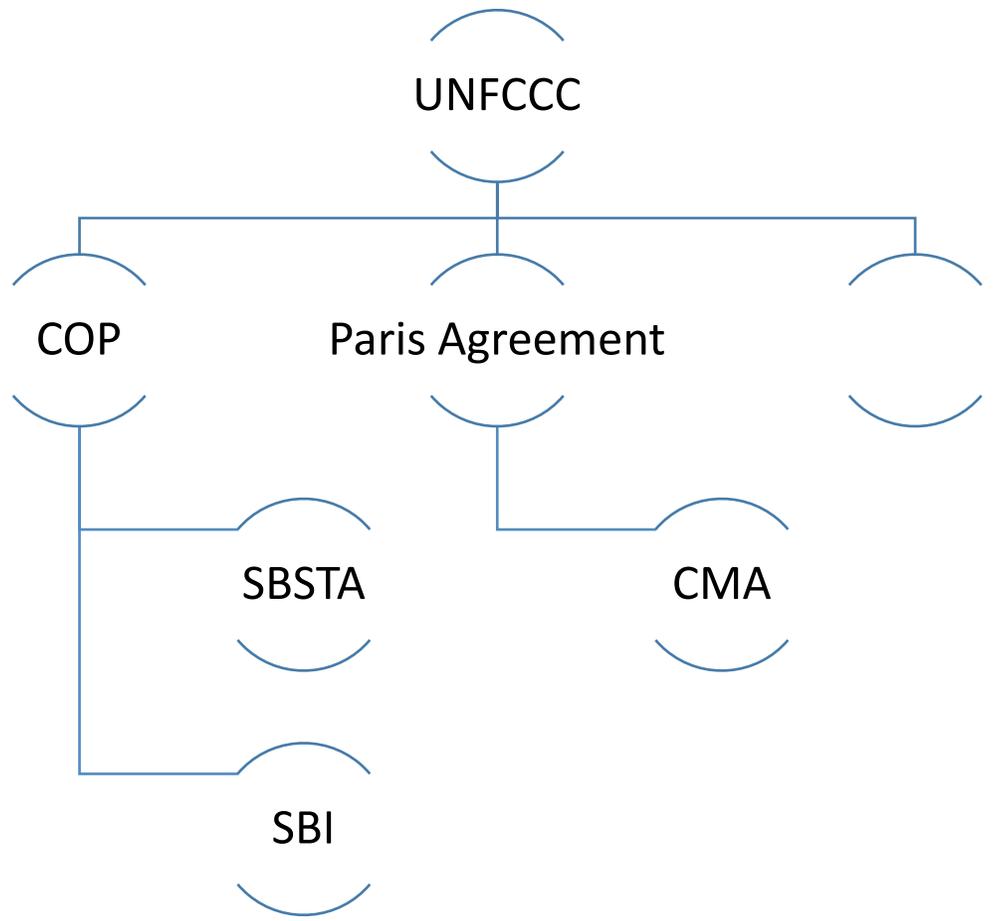
Paris Agreement: Article 5

1. Parties should take action to conserve and enhance, as appropriate, sinks and reservoirs of greenhouse gases as referred to in Article 4, paragraph 1 (d), of the Convention, including **forests**.
2. Parties are encouraged to take action to implement and support, including through results-based payments.. **positive incentives for activities relating to reducing emissions from deforestation and forest degradation, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks** in developing countries; and alternative policy approaches, such as joint mitigation and adaptation approaches for the integral and sustainable management of forests...

- Article 5(2) is about promoting sustainable management of forests – but there is no equivalent provision or mechanism under the UNFCCC regime for the ocean
- REDD +
- “Blue Carbon”

Blue Carbon





Paris Agreement

Article 4: Nationally Determined Contributions

- In order to achieve the long-term temperature goal set out in Article 2... Each Party shall prepare, communicate and maintain **successive nationally determined contributions** that it intends to achieve. Parties shall pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions.
- 3. Each Party's successive nationally determined contribution will **represent a progression** beyond the Party's then current nationally determined contribution and reflect its highest possible ambition, reflecting its common but differentiated responsibilities and respective capabilities, in the light of different national circumstances.

Article 14 [Global stocktake]

“The Conference of the Parties serving as the meeting of the Parties to this Agreement shall periodically take stock of the implementation of this Agreement to assess the collective progress towards achieving the purpose of this Agreement and its long-term goals

Developments under UNFCCC

2017 COP23 (Fiji Presidency) launched of [the Ocean Pathway: Towards an Ocean Inclusive UNFCCC Process \(Talanoa Dialogue](#) for NDCs)

- Two track strategy for 2020 supporting the goals of the Paris Agreement that includes:
 1. Increasing the role of the ocean considerations in the UNFCCC process (Paris agreement of limiting warming to 1.5 or well below 2 degrees)
 2. Significantly increasing action in priority areas impacting or impacted by ocean and climate change

2019 COP25–CMP15–CMA2 (Chile/Madrid) (Blue COP)

- Conference of the Parties at COP 25, by its [decision 1/CP.25](#) paragraph 31, requested the Chair of the Subsidiary Body for Scientific and Technological Advice (SBSTA) to convene at its fifty-second session (June 2020) a dialogue on the ocean and climate change to consider how to strengthen mitigation and adaptation action in this context.
- **Climate Dialogues** held (on-line) December 3-4 2020

2021 COP 26–CMP16–CMA3 (Glasgow)

Developments under UNCLOS/DOALOS

- United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea: Fourteenth meeting *Discussion panel on the impacts of ocean acidification on the marine environment* 17-20 June 2013
- United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea: Eighteenth meeting 15 – 19 May 2017 Panel “*The effects of climate change on oceans*”
- United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea: Twenty-first meeting: “*Sea-level rise and its impacts*”
14 to 18 June 2021

Conclusions

1. UNCLOS provides a clear framework of obligations for States to
 - Protect and preserve marine environment
 - To take all measures necessary to prevent, reduce and control pollution from all sources that would certainly include excessive anthropogenic produced CO₂ emissions – and in particular in relation to fragile ecosystems, habitats and endangered species
 - To cooperate either directly or through CIOs – in other words external to the Convention- to develop the necessary rules and standards..
2. The principal gap is that UNCLOS does not provide the mechanism for collective action to address the climate-ocean nexus-
3. UNFCCC provides a weaker obligations to address climate impacts on the ocean
 - Limits ocean and the marine environment to its role as a sink/reservoir for CO₂
 - No target for assessing mitigation of CO₂ for adverse impacts on the ocean
 - Temperature target has not been linked to the ocean
 - NDCs and Global Targeting not tailored to the climate-Ocean nexus
4. However, unlike UNCLOS, the UNFCCC provides for a mechanism for collective action- through the SBSTA and the COPs
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